

# Analysis of International Migration Patterns Affecting Physician Supply in Canada

Analyse des schémas de migration internationale et  
de leur influence sur la disponibilité de médecins  
au Canada



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## Abstract

This paper analyzes the migration patterns of both Canadian medical school graduates and international medical graduates (IMGs), and the impact of these patterns on physician supply in Canada. Immigration patterns of IMGs have changed over time, with fewer physicians from the United Kingdom and more from South Africa. A large portion of IMGs who leave Canada (43%) return “home.” Recently, the average duration of practice in Canada for these doctors has been three years, a finding that suggests many came for educational purposes or to acquire skills. The heterogeneity and complexity of international migration are highlighted in this paper.

## Résumé

Cet article analyse les schémas de migration des diplômés en médecine d'écoles canadiennes et de ceux venant de l'étranger, et étudie l'impact de ces schémas sur la disponibilité de médecins au Canada. Les schémas d'immigration des diplômés de l'étranger se sont modifiés au cours des années : moins de médecins proviennent du Royaume-Uni et plus viennent de l'Afrique du Sud. Une grande part des diplômés de l'étranger quittent le Canada (43 %) pour retourner au pays où ils ont obtenu leur diplôme. Récemment, le temps moyen de pratique au Canada pour ces médecins était de trois ans, donnée qui suggère que plusieurs d'entre eux sont venus pour obtenir une formation ou acquérir des compétences. L'hétérogénéité et la complexité de la migration internationale sont mis en relief dans l'article.

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**I**n CANADA, DISCUSSION ON THE INTERNATIONAL MIGRATION OF PHYSICIANS is typically focused on two issues – “brain drain” from Canada and the ethics of recruiting doctors offshore. Canada’s position in the global workforce can be aided by better understanding the flows in and out of the country. Do we primarily gain from a few countries of the world? Have these countries changed over time? What proportion of our physicians do we lose to countries other than the United States? Do international medical graduates (IMGs) return home?

The Canadian Institute for Health Information (CIHI) reports annually on the number of physicians moving abroad and returning to active practice in Canada (CIHI 1996–2005). In the early to mid-1990s, net losses averaged 400 per year. More recently, the number of physicians leaving Canada has decreased significantly, resulting in net gains of between 30 to 60 per year.

A study of Canadian physicians practising in the United States showed that there are many professional and personal push and pull factors (McKendry et al. 1996). Results of a similar 2007 survey confirmed many of the influences causing physicians

to emigrate and identified potential incentives for returning (Buske 2007).

A study that tracked the Canadian medical graduating class of 1989 six years later found that 11% were either in practice, in training or inactive outside Canada (Ryten et al. 1998). Similar statistics for the 2000 postgraduate exiting cohort show that 94% were in Canada two years later and 92% were there five years later. The 1995 cohort showed 89% retention 10 years later (CAPER 2003 and 2007).

Less has been published with respect to physicians immigrating to Canada and achieving licensure to practise either through pre-arranged employment or temporary employment authorizations (Barer and Webber 1999). The latter category in particular is problematic, given that one individual may be counted a number of times when the physician's authorization is renewed. In a paper on international migration patterns of physicians, the number of IMGs was reported by source and receiving country (Mullan 2005). These findings, however, are based on aggregate supply and do not take into account when the IMG became licensed to practise in Canada.

The purpose of this study is to look at migration patterns of IMGs immigrating to Canada and the pattern of physicians leaving Canada, both Canadian medical graduates (CMGs) and IMGs.

## Data Source/Methods

The Canadian Medical Association (CMA) has developed a comprehensive database that is intended to capture all licensed physicians in Canada. It is updated continually with information from certifying bodies, licensing bodies, provincial/territorial medical associations and individual physicians. It contains such information as name, address, age, sex, school and year of graduation, certified specialty, language and so on. Those who may have an educational licence while undertaking postgraduate medical education are in the database, but they and visa trainees are omitted from this study.

The CMA multi-year Masterfile is created from compiling annual point-in-time (January) snapshots of the physician database and adding the following tracking variables:

- ✦ Ever abroad
- ✦ Age went abroad
- ✦ Returned from abroad
- ✦ Age returned from abroad
- ✦ Destination country if went abroad
- ✦ Destination country was place of MD graduation

Every physician who was ever abroad between 1995 and 2005 is included in this study. This includes both Canadian graduates who have emigrated and IMGs who

immigrated to Canada and subsequently left. Those who returned to Canada during this period but originally left before 1995 are excluded.

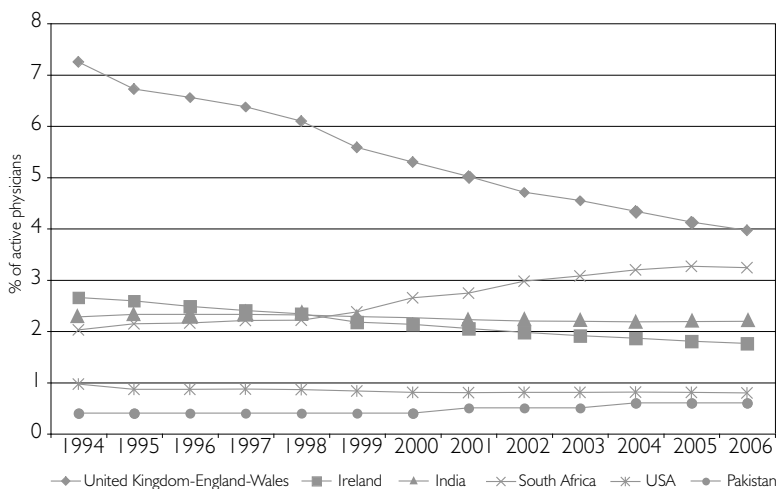
One of the major limitations of the data is their quality with respect to migrating physicians who are not members of the CMA. An out-of-country address is typically provided by the individual physician or by the physician's prior Canadian office or hospital. Between 200 and 300 non-members per year are removed from the active counts because of the absence of a valid Canadian address. Unless a non-Canadian address is verified, the physician cannot be classified as abroad even though this may be the case. It is likely that the abroad counts presented below are understated.

## Results

### Immigration of international medical graduates

The country of MD graduation of IMGs first licensed in Canada is changing. The largest numbers of physician immigrants in the past decade are graduates from South Africa, the United Kingdom, India, Saudi Arabia, Egypt and Pakistan. The migration patterns of the past decade (1995–2005) have shifted away from the United Kingdom and Ireland towards graduates of Saudi Arabia, Pakistan and South Africa. The current mix is the result of new immigrants and the retirement of earlier immigrant physicians. Over the past decade, UK physicians decreased from 7.2% to 4% of active physicians in Canada, graduates from Ireland from 2.6% to 1.8% and US graduates from 1.0% to 0.8%, while South African graduates increased from 2% to 3.2% (Figure 1). The annual numbers of new immigrant South African graduates, however, decreased from 200 in 2001 to 74 in 2005.

FIGURE 1. Active IMGs in Canada, by country of graduation



Source: CMA Multiyear Masterfile, 2006.

Out-migration of licensed Canadian physicians

Since the CIHI migration data do not track exit and re-entry on a cohort basis, it is not possible to know the length of time between exit and return. The CMA's multi-year file tracked mobility of physicians over a 10-year period, 1996 to 2005. Of those who left in 1996 and 1997, 33% and 34% had returned by 2005 and approximately 80% of those returning did so within five years.

CANADIAN MEDICAL GRADUATES

Where do Canadian medical graduates go when they leave Canada? Between 1995 and 2005, the CMA Masterfile reported a loss of 2,869 practising physicians who were graduates of Canadian medical schools, 2,323 (80%) of whom went to the United States. A considerably smaller number went to Saudi Arabia (91) and other Middle Eastern countries (82). A small number migrated to Commonwealth countries (UK 53, Australia 47 and New Zealand 34), to Europe (39) and Hong Kong (22).

INTERNATIONAL MEDICAL GRADUATES

Based on survey data (CFPC et al. 2004), in most respects, IMGs practise in a similar fashion to CMGs, especially once they are well established. But when it comes to out-migration from Canada, they demonstrate a different behaviour pattern than their CMG colleagues. Many return to the country or region where they received their medical degrees (Table 1). Between 1995 and 2005, a total of 1,146 IMGs, representing less than 1% of all practising IMGs in any given year, left Canada, 61% (696) licensed prior to 1995 and 39% (450) licensed between 1995 and 2005.

TABLE 1. IMGs who left Canada, 1995–2005

Country of graduation	IMGs licensed before '95			IMGs licensed '95–'05			All IMGs		
	Left Canada	Returned home	Returned home (%)	Left Canada	Returned home	Returned home (%)	Left Canada	Returned home	Returned home (%)
UK/Wales/Ireland	254	102	40.2	53	21	39.6	307	123	40.1
USA	50	40	80.0	27	24	88.9	77	64	83.1
Australia/New Zealand	25	15	60.0	17	14	82.4	42	29	69.0
South Africa	96	37	38.5	92	58	63.0	188	95	50.5
Other African countries	5	1	20.0	7	0	0.0	12	1	8.3

TABLE 1. Continued

Asia	17	10	58.8	21	8	38.1	38	18	47.4
Southeast Asia	11	1	9.1	9	1	11.1	20	2	10.0
India/Pakistan/ Sri Lanka	58	6	10.3	52	6	11.5	110	12	10.9
Central America/ Caribbean	26	3	11.5	10	0	0.0	36	3	8.3
South America	21	10	47.6	8	3	37.5	29	13	44.8
Europe	51	15	29.4	25	10	40.0	76	25	32.9
Eastern Europe	21	3	14.3	24	0	0.0	45	3	6.7
Saudi Arabia	18	18	100.0	69	59	85.5	87	77	88.5
Other Middle Eastern	43	20	46.5	36	7	19.4	79	27	34.2
Total	696	281	40.4	450	211	46.9	1,146	492	42.9

Source: CMA Multiyear Masterfile, 2006.

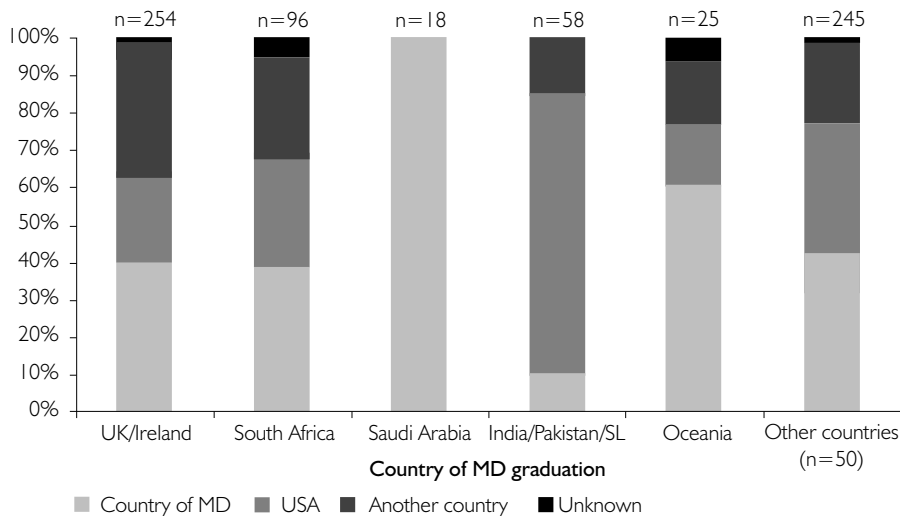
Overall, 43% of this group returned “home,” i.e., to the country where they received their medical degree or to a neighbouring country without a medical school. Just over 40% of the group initially licensed in Canada before 1995 who left between 1995 and 2005 returned home, and this number increased to 47% for those initially licensed between 1995 and 2005.

Of the overall established cohort of IMGs, almost 700 were licensed before 1995 and left Canada between 1995 and 2005. Depending on the country of MD graduation, different patterns emerge (Figure 2). For example, 10% of Indian/Pakistani/Sri Lankan graduates returned to their country of MD graduation, while close to 80% went to the United States. In contrast, 60% of Australian and New Zealand graduates returned to their country of MD graduation (Oceania), and only 16% went to the United States. Virtually all the Saudi Arabian graduates and 38.5% of South African graduates returned home.

Of the more recently licensed IMGs (1995–2005) who left between 1995 and 2005 (450), 46.9% returned to the country where they received their MD degree (Figure 3). Their average duration between licensure in Canada and departure was three years. A high percentage of those IMGs returning home were graduates from the United States (89%), Oceania (82%), Saudi Arabia (86%), Hong Kong (64%) and South Africa (63%).

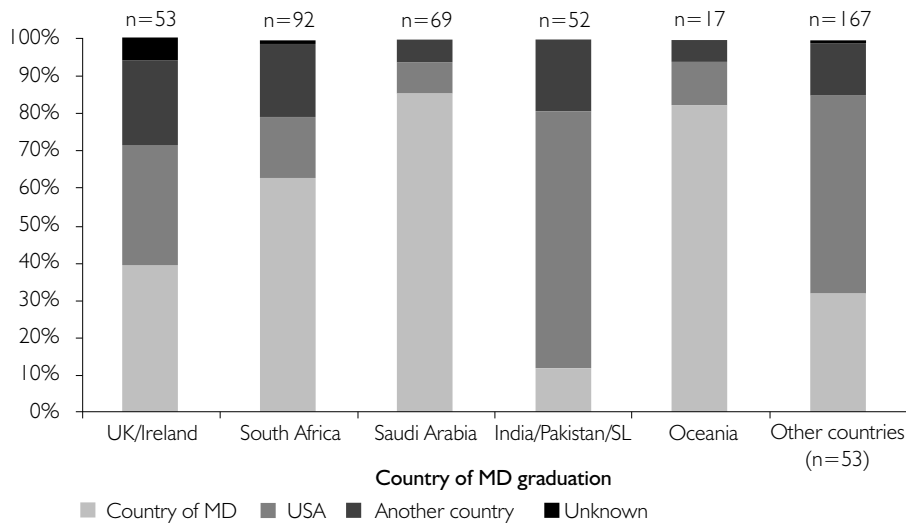
If they did not return home, where did they go? About half (48%) the entire cohort of IMGs who left Canada returned to or near their country of graduation, 34% moved to the United States and 17% moved to another country. A high percentage of graduates of the following countries emigrated from Canada to the United States: Eastern Europe (96%), Central America and Caribbean (90%), China (89%), India/Pakistan/Sri Lanka (69%) and Middle East (61%).

FIGURE 2. IMGs who moved abroad between 1995 and 2005 (licensed before 1995)



Source: CMA Multiyear Masterfile, 2006.

FIGURE 3. IMGs who moved abroad between 1995 and 2005 (licensed between 1995 and 2005)



Source: CMA Multiyear Masterfile, 2006.

## Discussion

Canadian physicians are well qualified both from an academic and a clinical perspective and are highly regarded by the rest of the world, especially the United States, with whom Canada shares a joint accreditation system for recognition of undergraduate medical degrees. With projected shortages in the United States of up to 200,000 physicians by 2020, pressure from recruiters to entice Canadian physicians to emigrate is expected to increase (Cooper 2004).

While the out-migration of Canadian medical graduates has been declining, for those leaving, the United States is still the destination for 80% of them. The CMA data show that at least a third of them return, and 80% of those returning do so within five years of departure, suggesting that this group left Canada to acquire further training and experience.

The World Health Organization (WHO) recently identified 57 countries that are facing severe health-sector shortages. There is thus a strong need for countries to keep the healthcare workers they have trained (WHO 2006). Canada's recent increases in undergraduate medical school enrolment (AFMC 2007) and its commitment to ethical international recruitment policies may lessen its dependency on IMGs.

IMGs do not necessarily remain on a permanent basis after their initial licensure in Canada. Of those who leave Canada, about 40% of established IMGs, initially licensed in Canada prior to 1995, and about 50% of recent IMGs, first licensed in Canada between 1995 and 2005, returned to their home or neighbouring countries after an average of three years in Canada, suggesting that this group came to Canada for training, skills development or practice experience to complement their prior knowledge.

Despite the failure of the CMA Masterfile to capture all physicians who go abroad, the proportional findings of this study are likely to reflect the general pattern. It would be interesting to continue to follow patterns of migration over a longer period of time. Also of value would be a study of those IMGs who came to Canada for a period and then left but did not return home. Did they stay in their next destination, or was that another stepping-stone before returning home?

## Conclusion

International migration of physicians is a heterogeneous and complex process driven by varied motives. Contrary to some beliefs, mobility is not necessarily a one-time move or a one-way passage to a desired destination, nor is it always a case of a developed country raiding and poaching developing countries.

Although recruitment must be based on an ethical philosophy and set of values, we must understand the life cycle of physician migration and its benefits to capacity building and humanitarian service. Some of the data presented here speak to global capacity building of physicians – a willingness to share knowledge, skills and experi-



ence with those who need it so that many, not just a few, may benefit. We need to ensure that well-meaning protective policies developed during either oversupply or undersupply crises do not lead to unintended consequences that limit mobility of physicians for opportunities to learn and to acquire skills and knowledge they need in their home countries. This study illustrates that while Canada is the fortunate recipient of many international medical graduates, not all relocate to Canada permanently and, like many Canadian-born physicians, are simply benefiting from the educational opportunities and experiences offered in a foreign country.

A recent paper by Fitzhugh Mullan (2007) reports that in 2006, 27% of graduating US medical students had worked abroad, double the proportion of a decade earlier. He suggests that a commitment by the United States to mobilize healthcare workers for service abroad would benefit not just the patients and professionals, but also underscore US commitment to the global community and act as compensation for the benefit the United States has gained from internationally trained physicians.

Physicians do practise and live in a global village, and opportunities to share and learn from one another raise awareness, expand vision and generate global compassion and, hopefully, shared solutions.

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